

# KIC 003655115

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003655115-01	OBS	No	0.623547	131.886597	130.7	3.861	11.8	14.6	2.02	6767	2.49	29381.77

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003655115-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

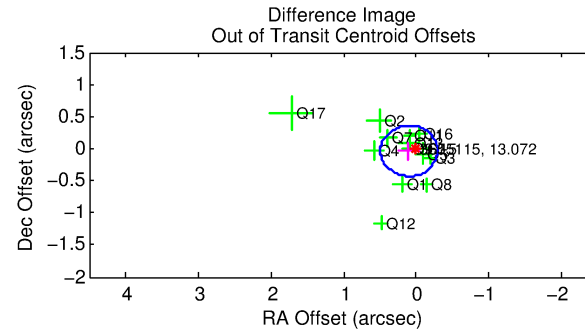
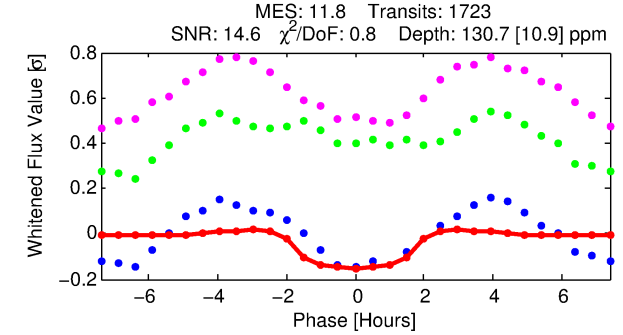
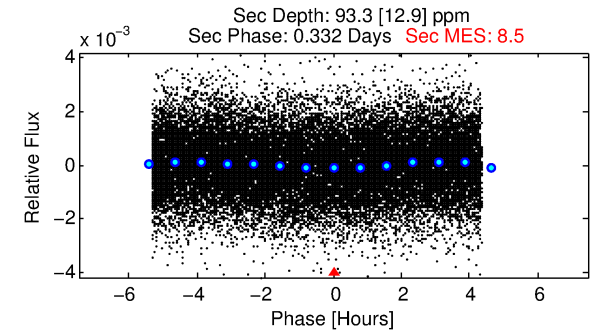
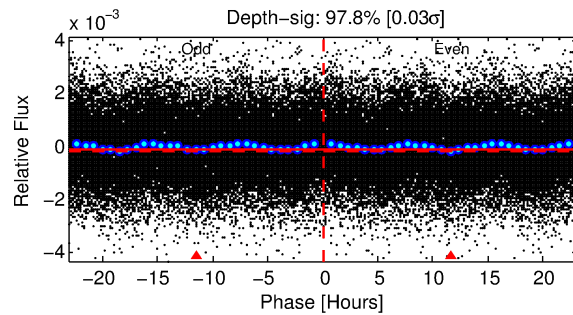
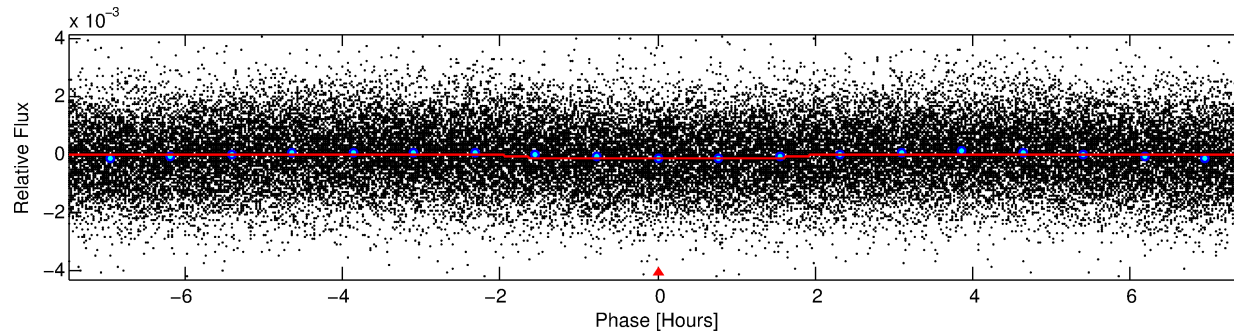
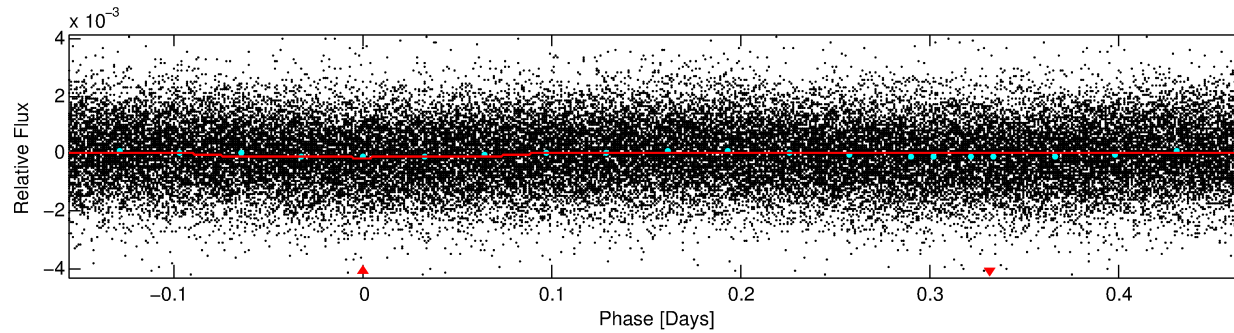
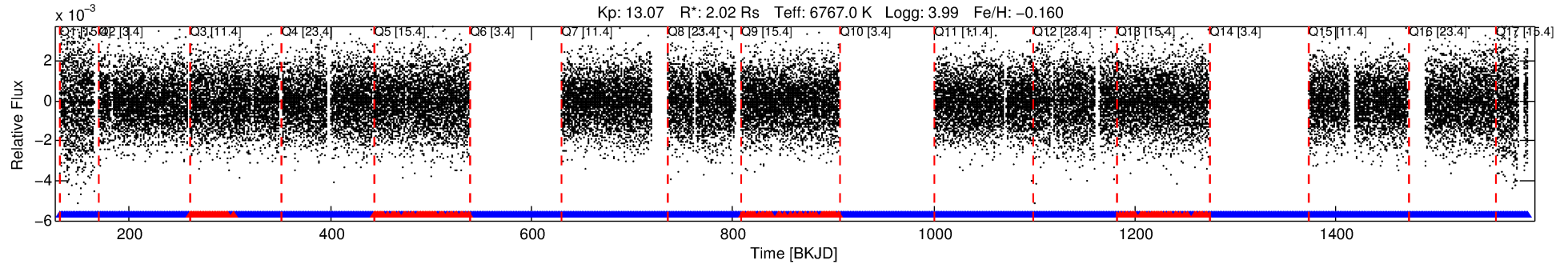
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003655115-01

No Significant Match Found

# DV One-Page Summary

KIC: 3655115 Candidate: 1 of 1 Period: 0.624 d



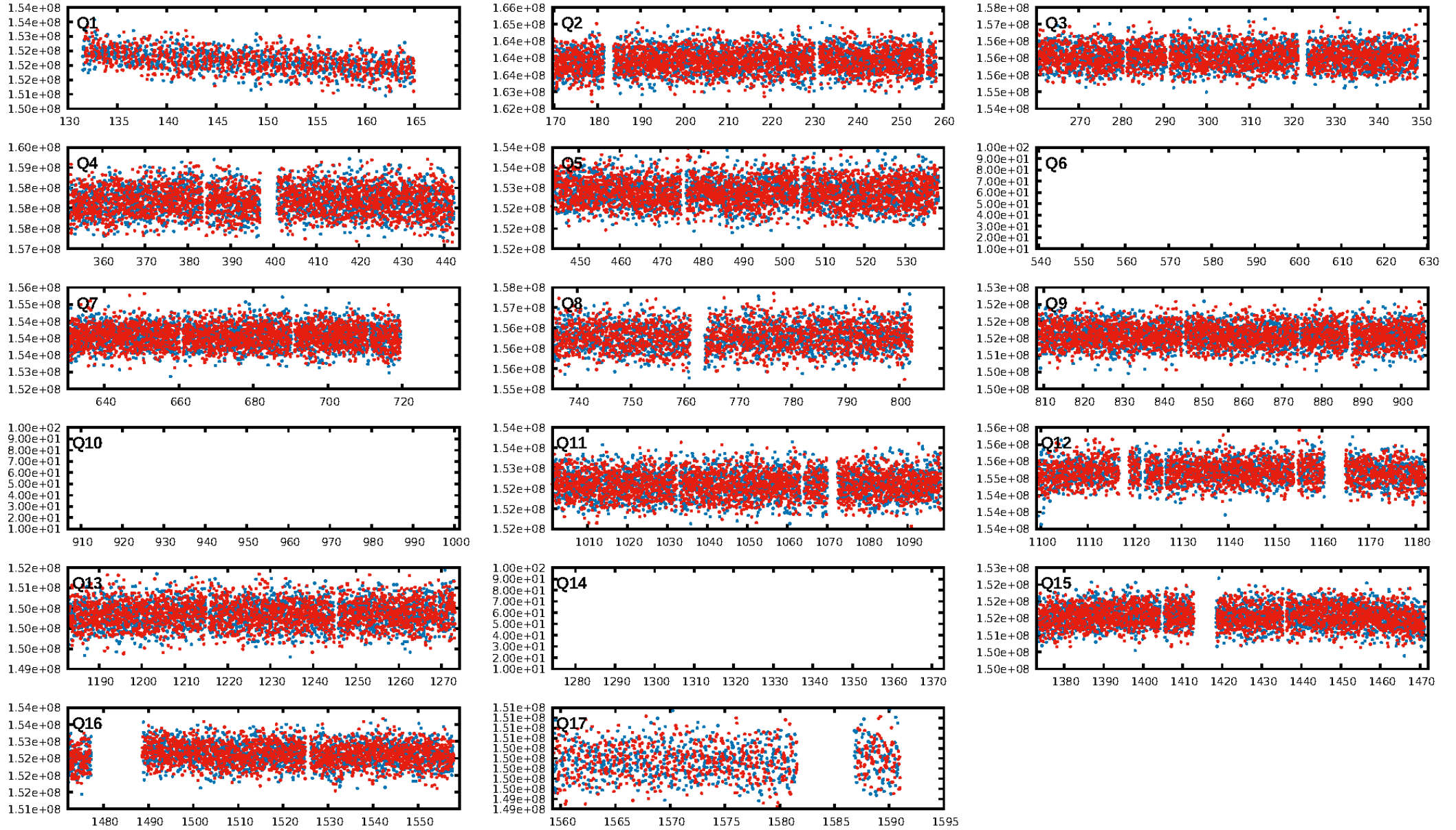
## DV Fit Results:

Period = 0.62355 [0.00001] d  
Epoch = 131.8866 [0.0032] BKJD  
Rp/R\* = 0.0113 [0.0118]  
a/R\* = 1.21 [2.31]  
b = 0.73 [3.91]  
Seff = 29381.77 [15290.49]  
Teq = 3338 [434] K  
Rp = 2.49 [2.75] Re  
a = 0.0161 [0.0053] AU  
Ag = 2.16 [4.62] [0.25σ]  
Teffp = 6257 [3271] K [0.88σ]

## DV Diagnostic Results:

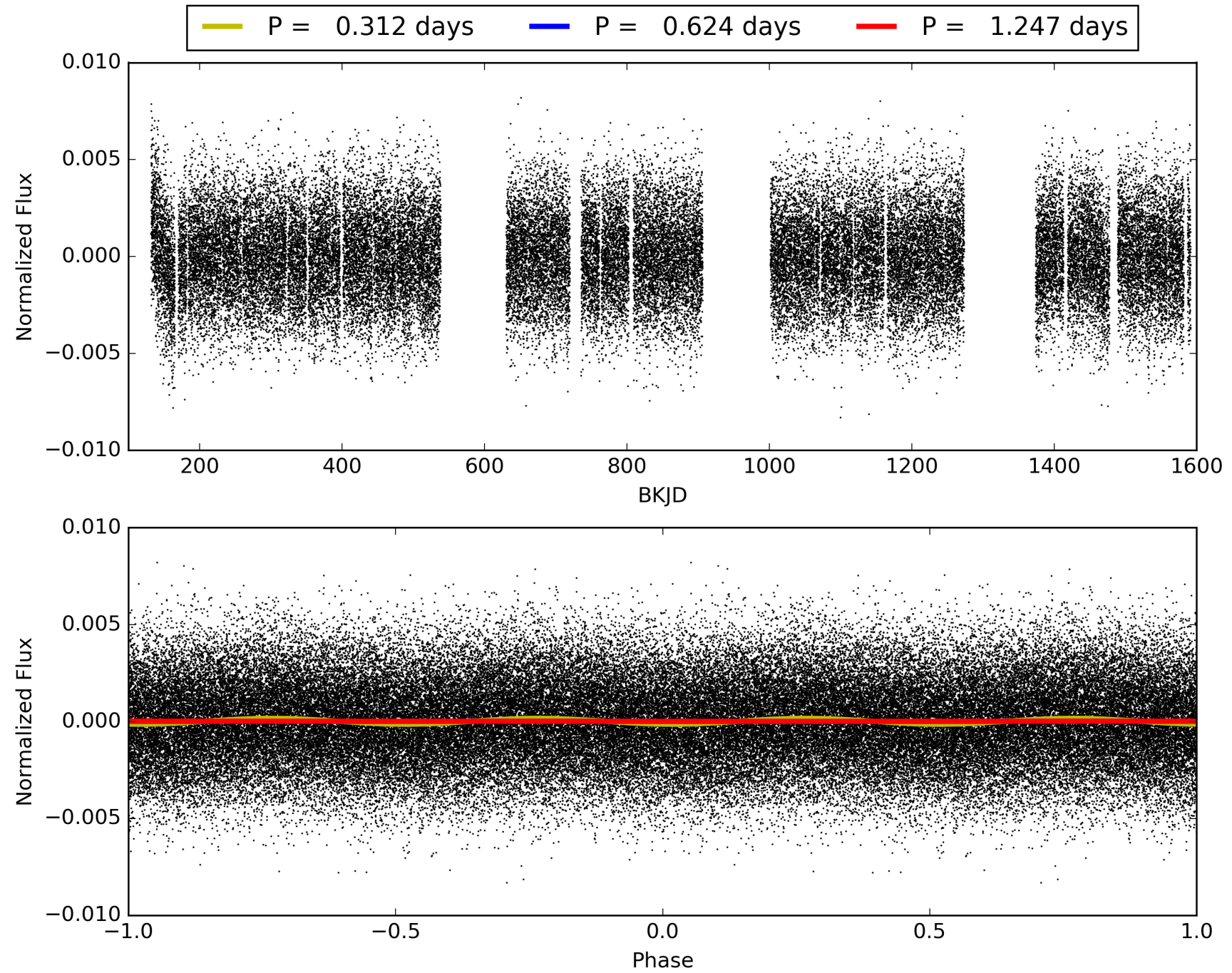
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.60e-23  
RollingBand-fgt: 0.88 [1426/1625]  
GhostDiagnostic-chr: 1.659  
**Centroid-sig: 0.0%**  
**Centroid-so: 0.427 arcsec [3.26σ]**  
OotOffset-rm: 0.107 arcsec [0.81σ]  
KicOffset-rm: 0.091 arcsec [0.67σ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 003655115-01, PDC Light Curves



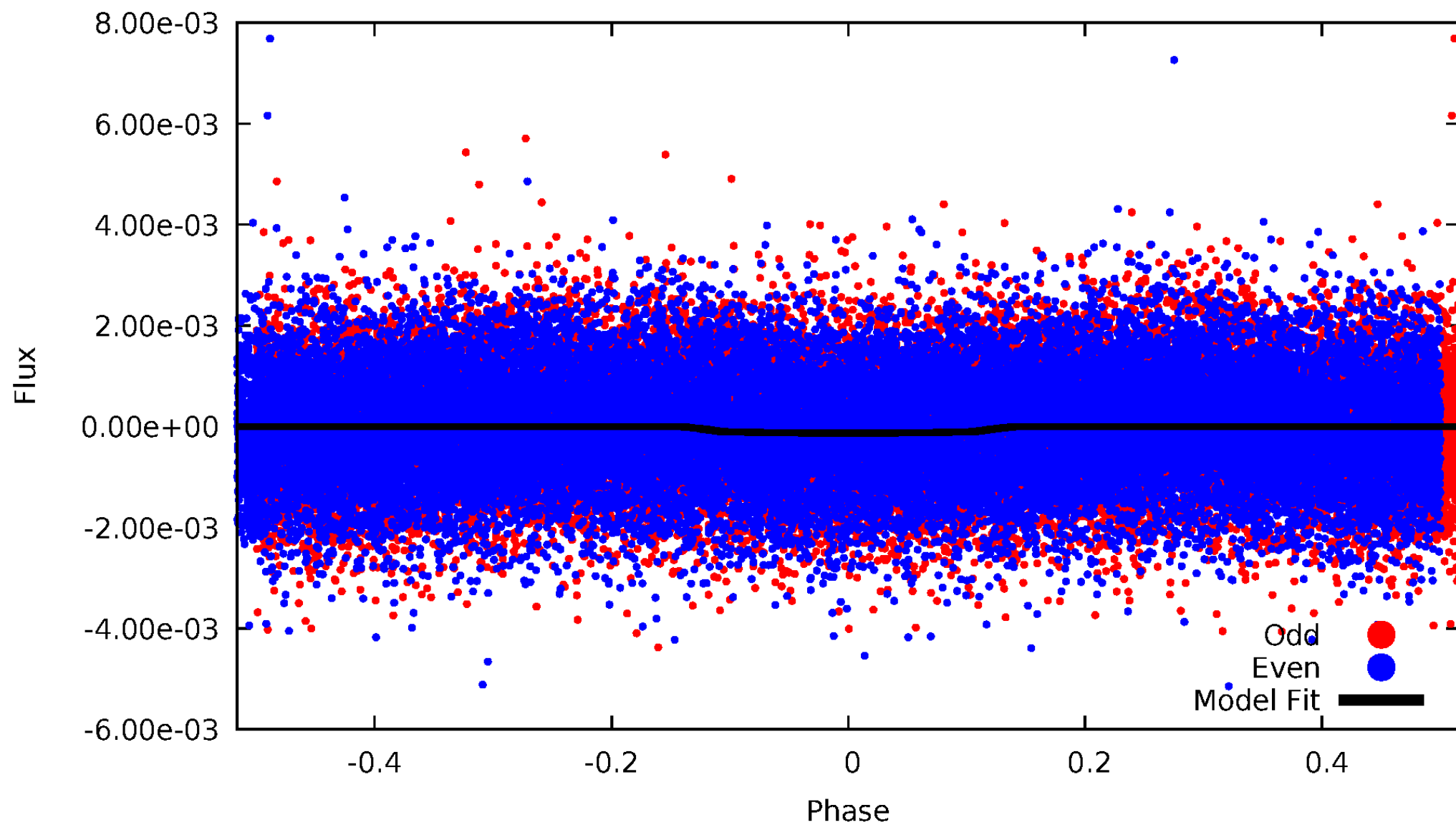


TCE 003655115-01



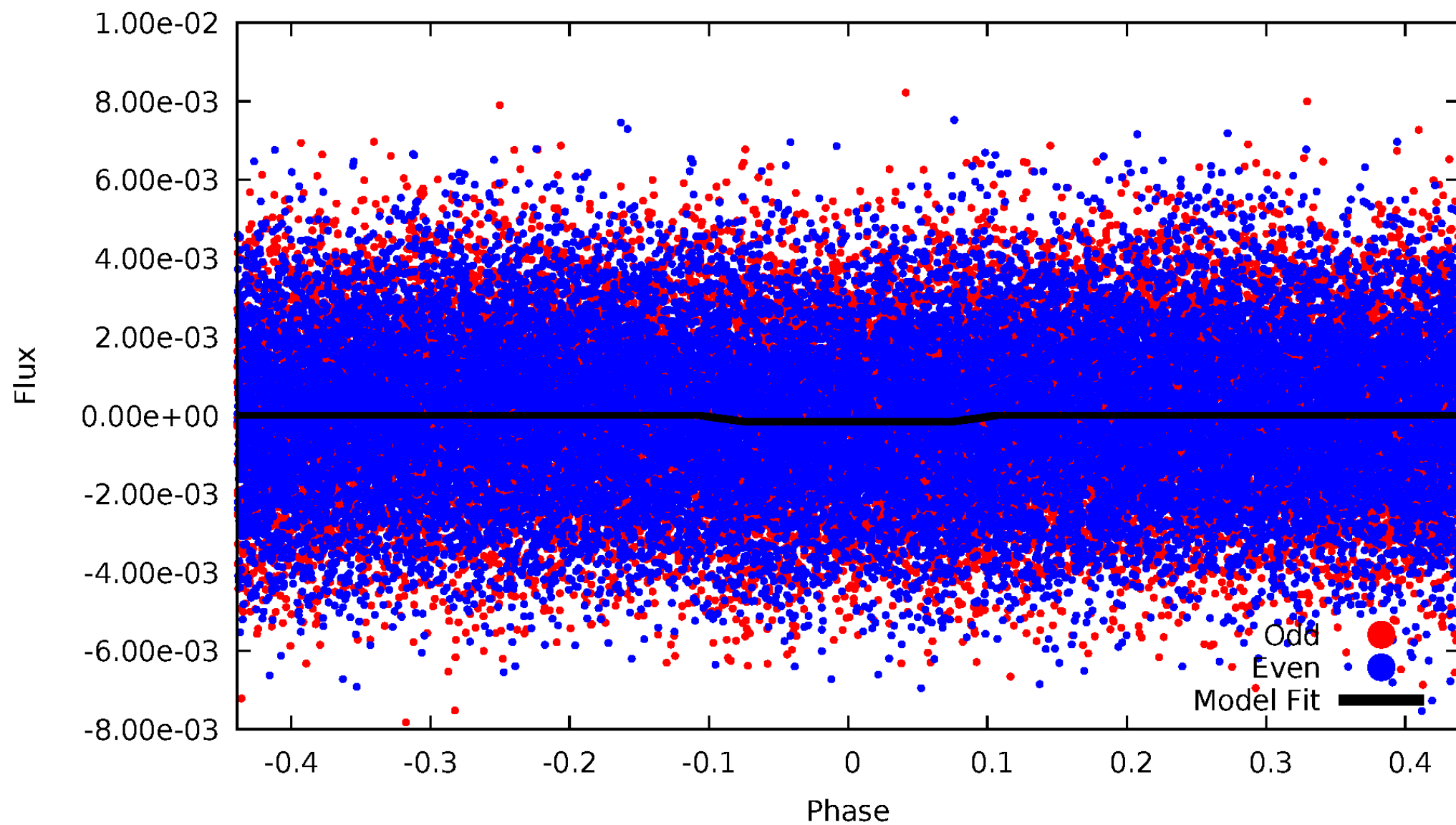
# DV Odd/Even

TCE 003655115-01

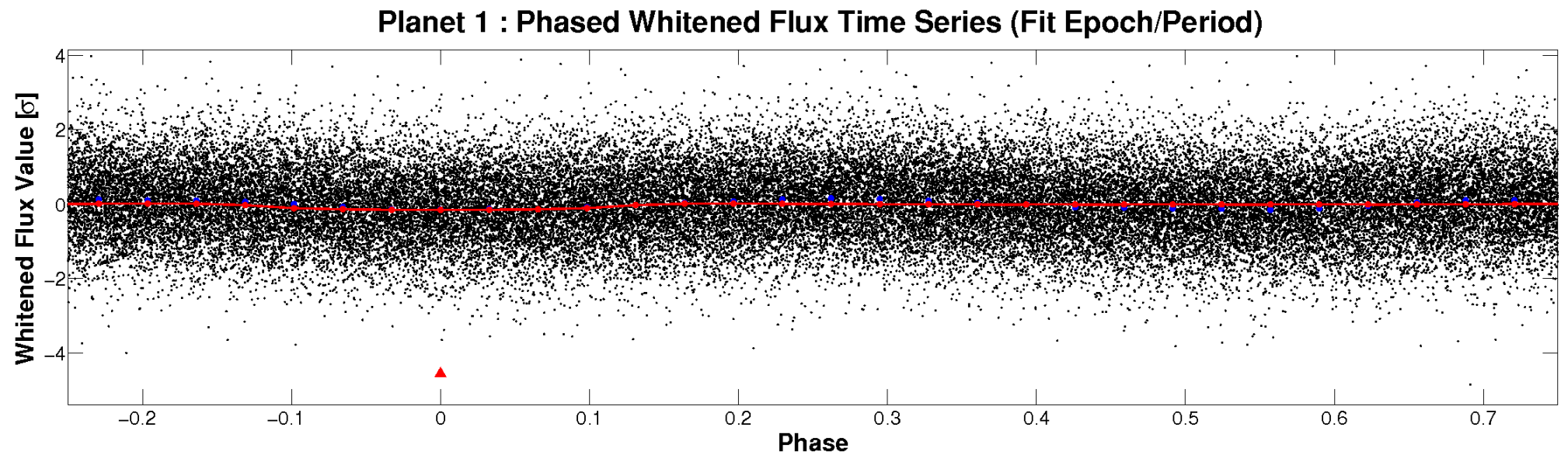
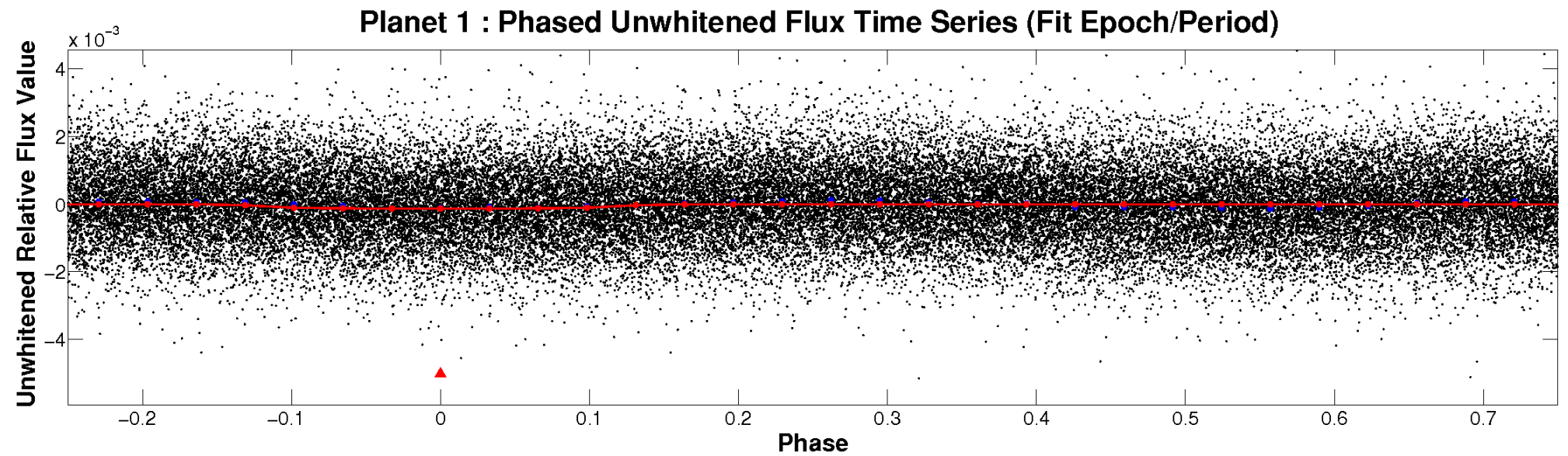


# ALT Odd/Even

TCE 003655115-01



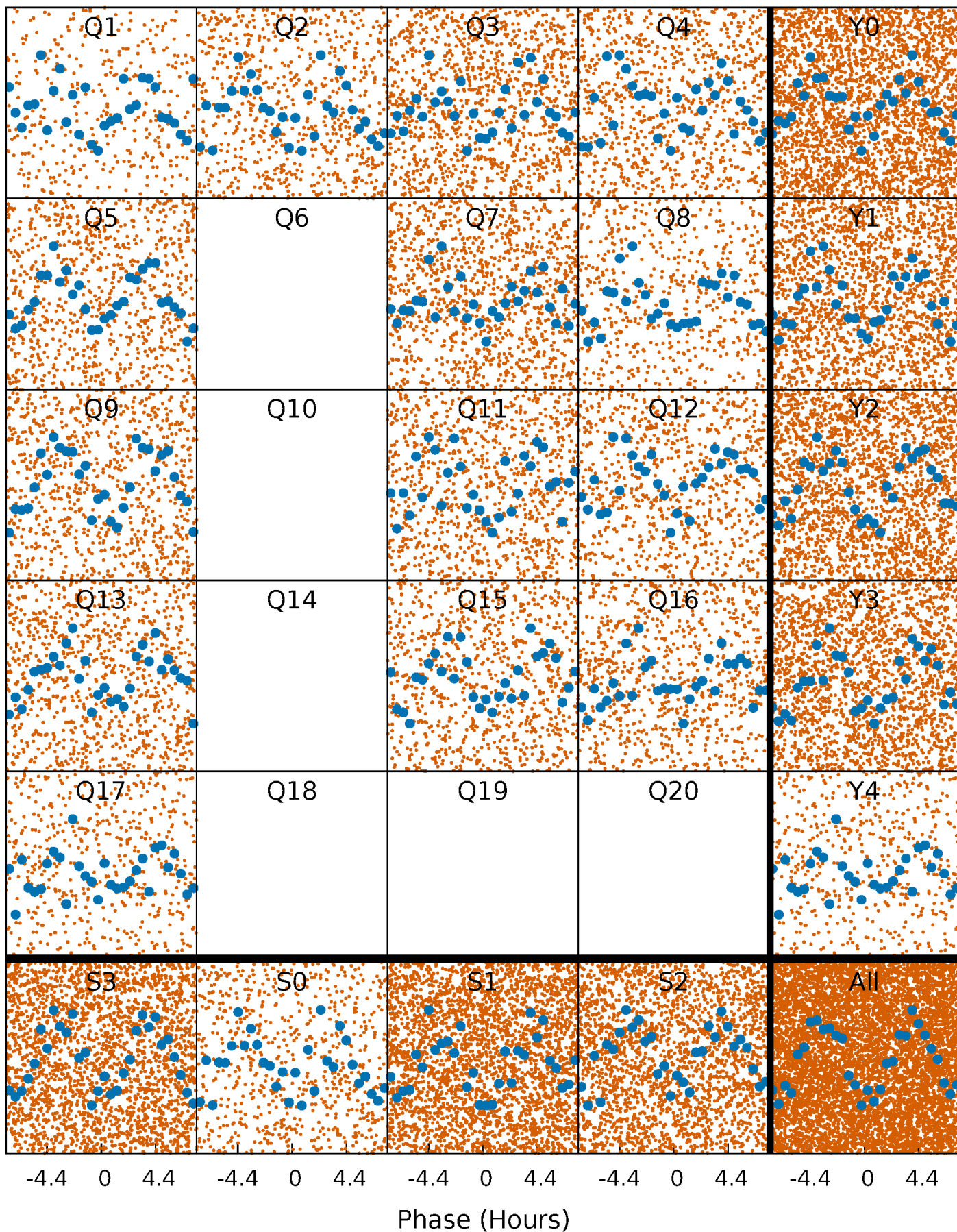
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

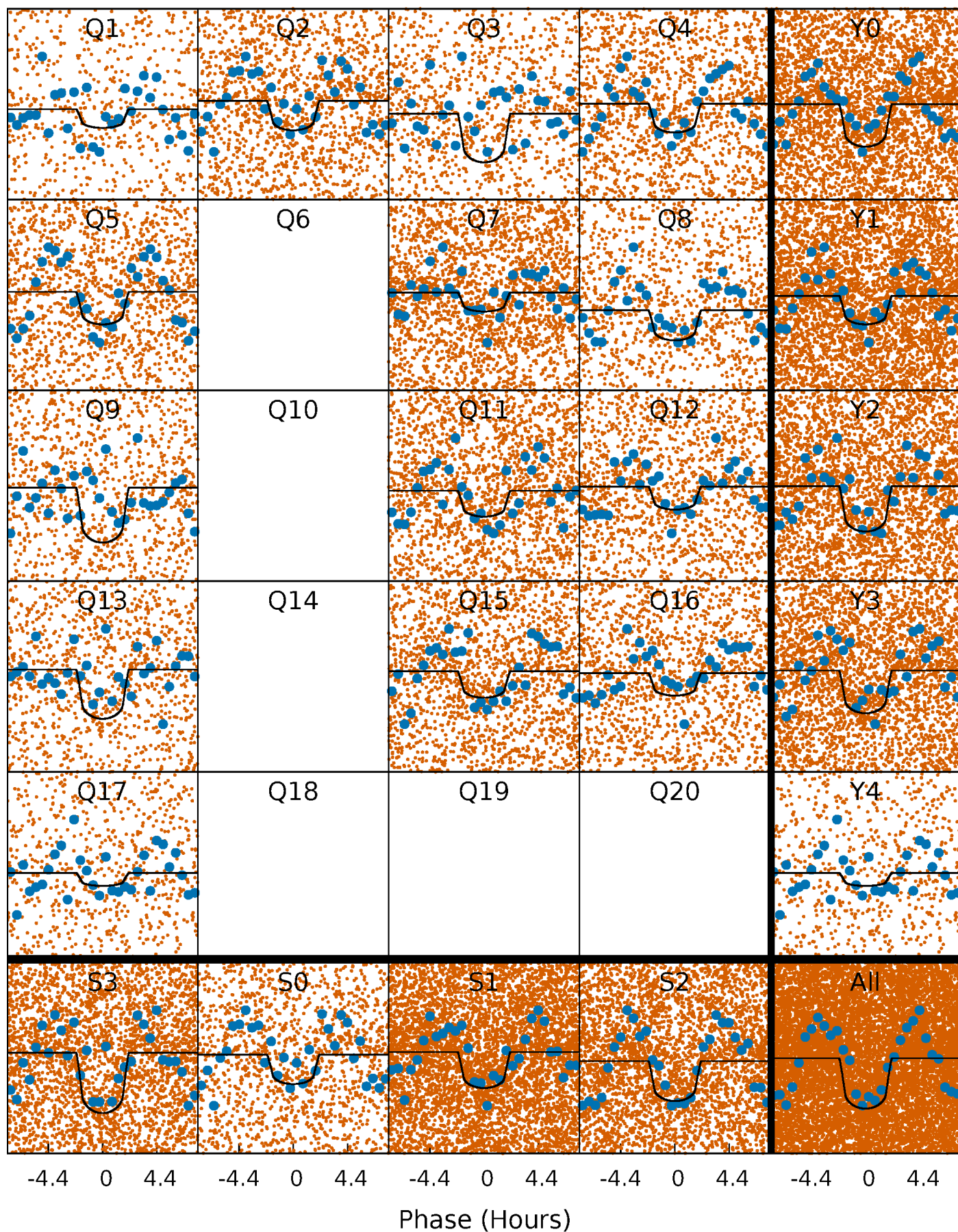
TCE 003655115-01 P= 0.623547 Days  $T_0=131.886597$  (BKJD)





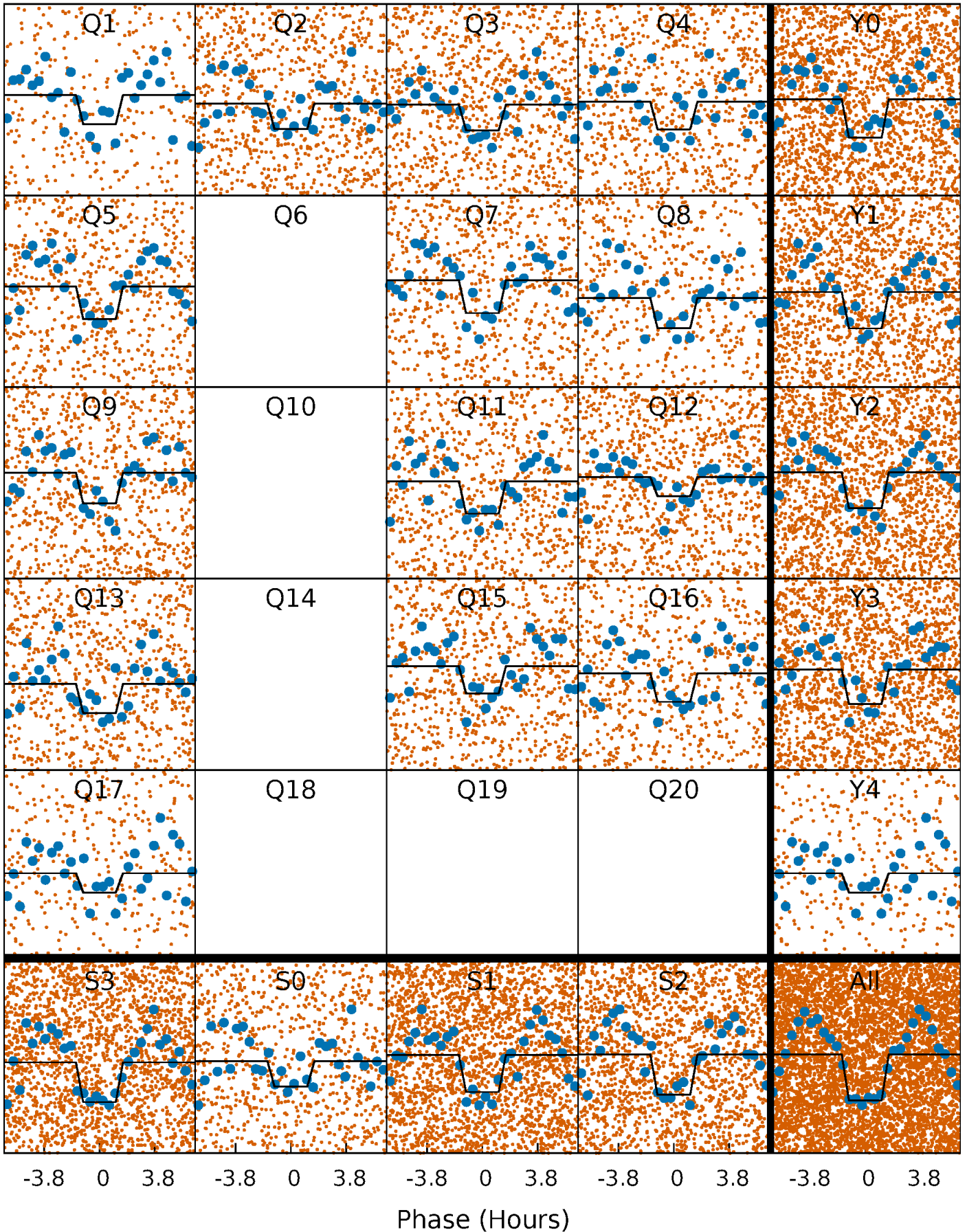
# DV Quarter-Phased Transit Curves

TCE 003655115-01 P= 0.623547 Days  $T_0=131.886597$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

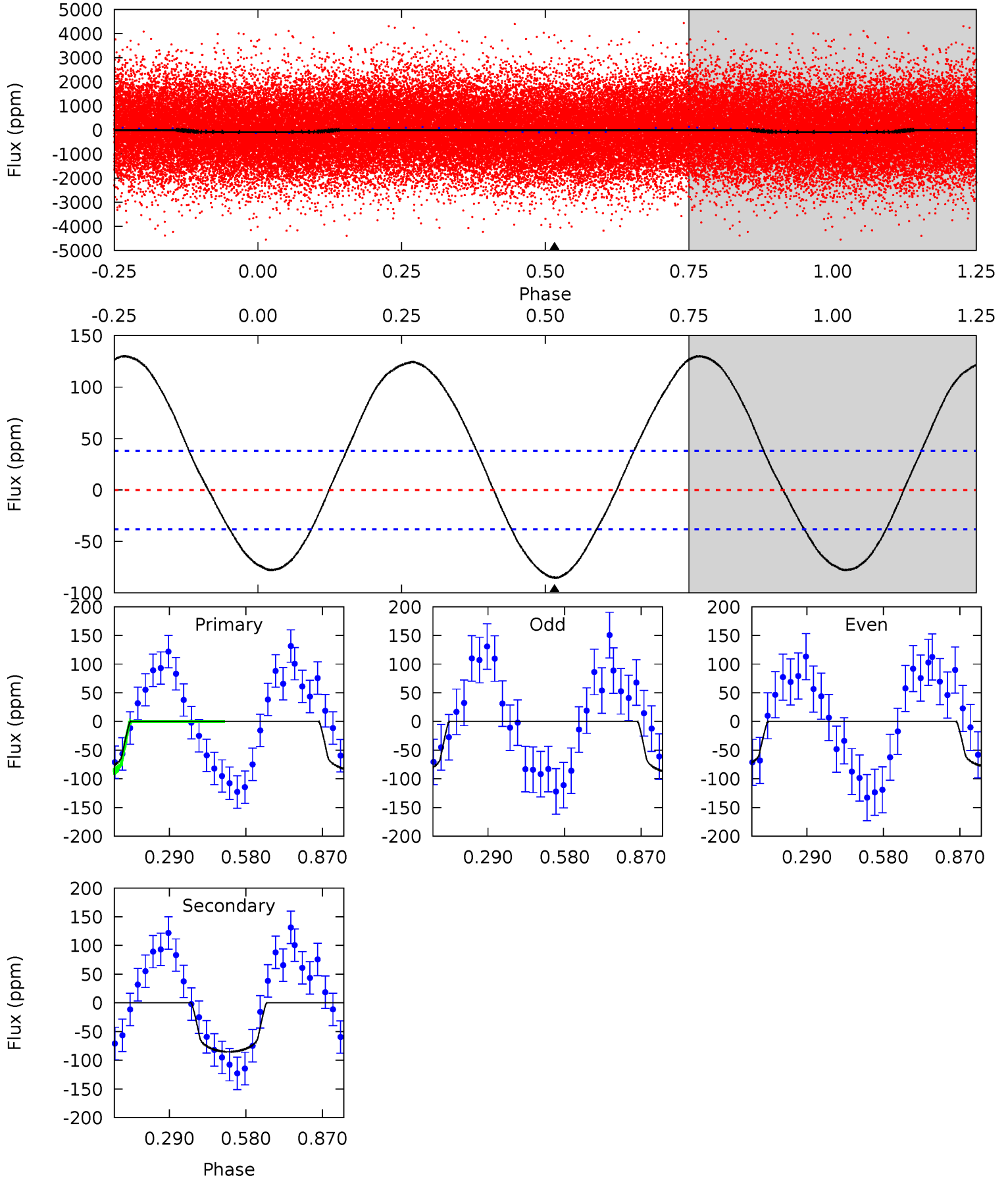
TCE 003655115-01 P= 0.623559 Days  $T_0=131.883756$  (BKJD)



# DV Model-Shift Uniqueness Test

003655115-01, P = 0.623547 Days, E = 131.263050 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.68	9.68	0	0	4.34	1.06	7.23	9.68	9.68	9.68	9.68	0.54	1.11	0.60	1.51

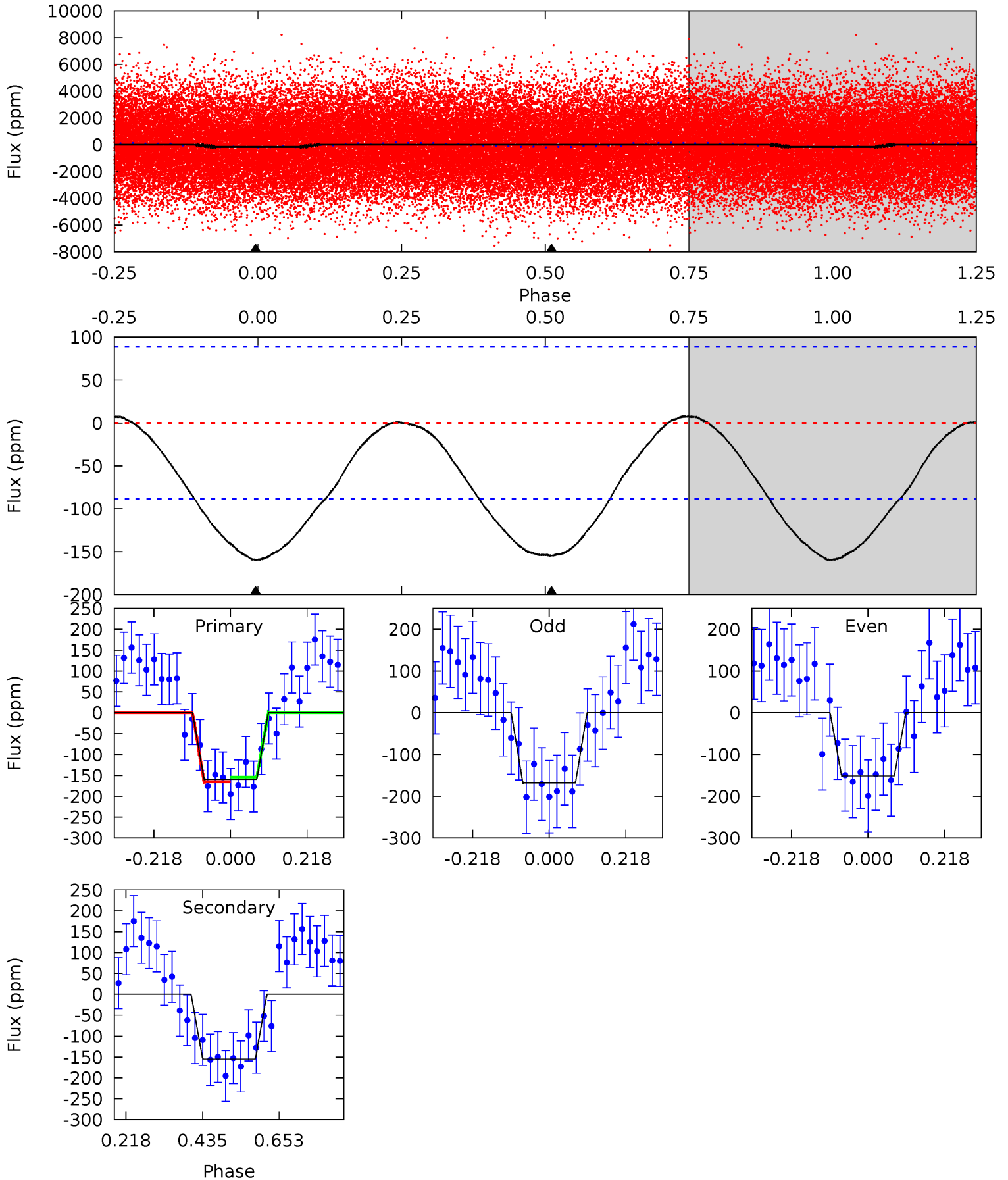




# Alt Model-Shift Uniqueness Test

003655115-01, P = 0.623559 Days, E = 131.260197 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.90	7.67	0	0	4.40	1.23	0.24	7.90	7.90	7.67	7.67	0.42	0.99	0.05	0.28





### Stellar Parameters For KIC 003655115

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6767^{+189}_{-284}$	$3.987^{+0.276}_{-0.161}$	$-0.160^{+0.250}_{-0.300}$	$2.019^{+0.570}_{-0.761}$	$1.445^{+0.205}_{-0.308}$	$0.247^{+0.492}_{-0.108}$
	+3%/-4%	+7%/-4%	+156%/-188%	+28%/-38%	+14%/-21%	+199%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003655115-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-85 \pm 9$	$2.97^{+2.47}_{-1.97}$	$4614^{+377}_{-441}$	$5165^{+4374}_{-1614}$	$1.413^{+9.705}_{-0.988}$
Alt.	$-155 \pm 20$	$3.02^{+2.56}_{-1.85}$	$4561^{+375}_{-466}$	$5952^{+4975}_{-1639}$	$2.372^{+14.466}_{-1.664}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

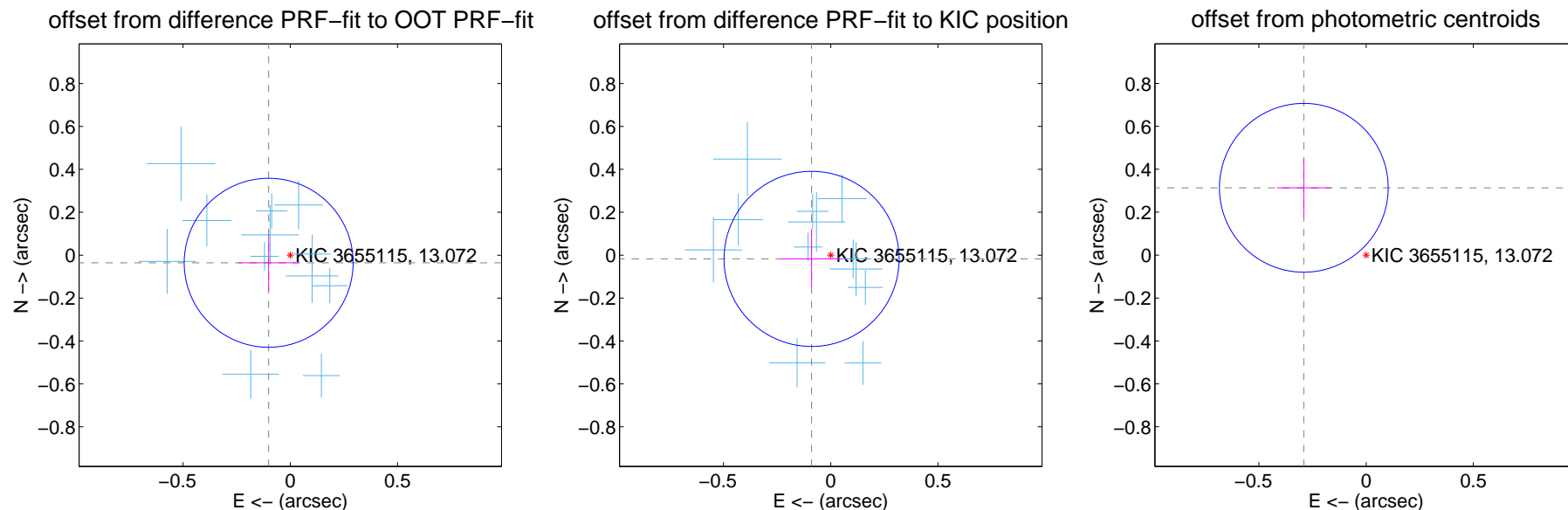
## DV Centroid Data

Supplemental centroid analysis for 003655115-01. Kepler magnitude: 13.07. Transit SNR 14.64

There are 14 quarters with good PRF difference image offsets

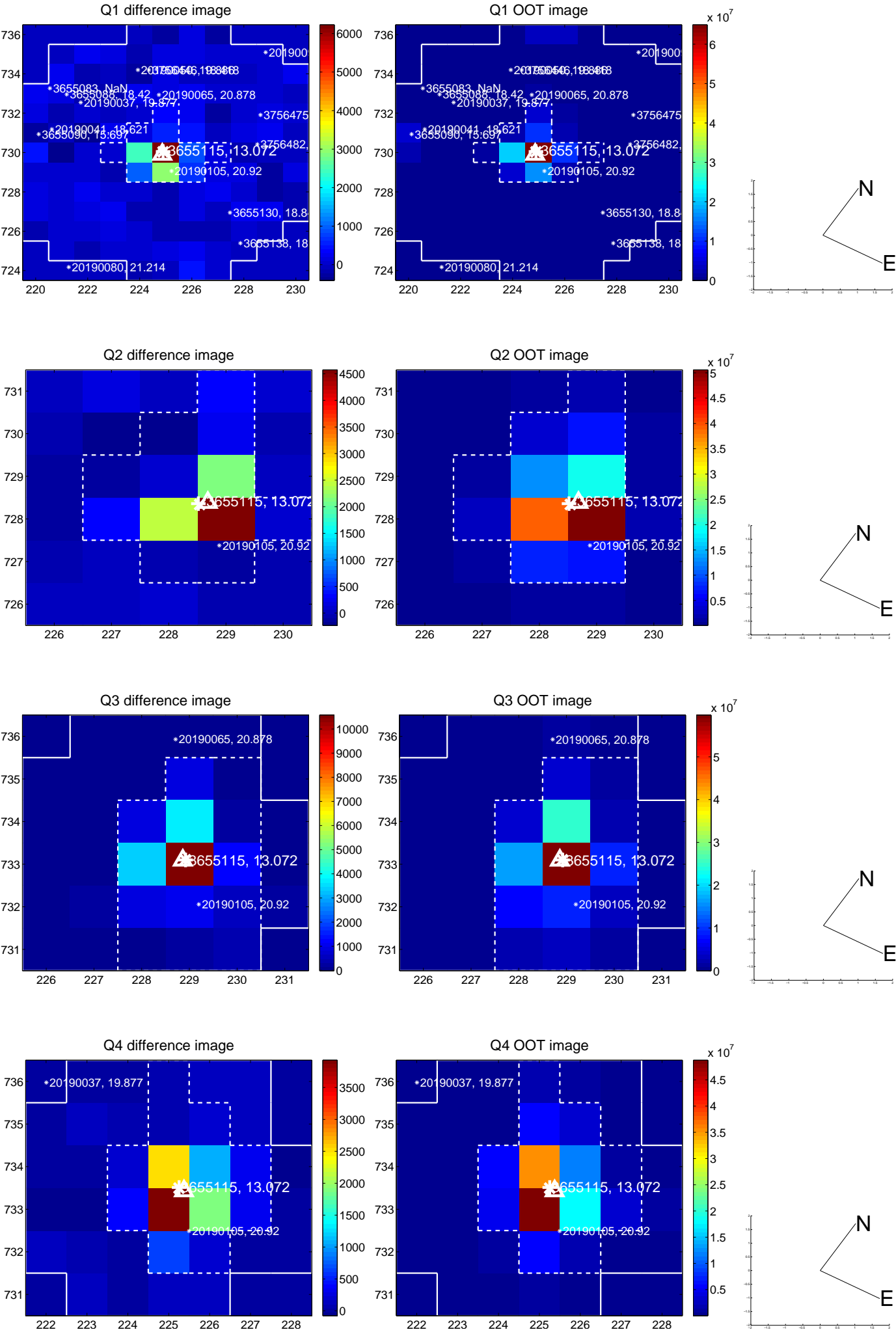
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.107 \pm 0.131$	0.81	$0.101 \pm 0.142$	$-0.036 \pm 0.132$
PRF-fit source offset from KIC position	$0.091 \pm 0.136$	0.67	$0.089 \pm 0.142$	$-0.017 \pm 0.137$
photometric centroid source offset	$0.43 \pm 0.13$	<b>3.26</b>	$0.29 \pm 0.13$	$0.31 \pm 0.14$

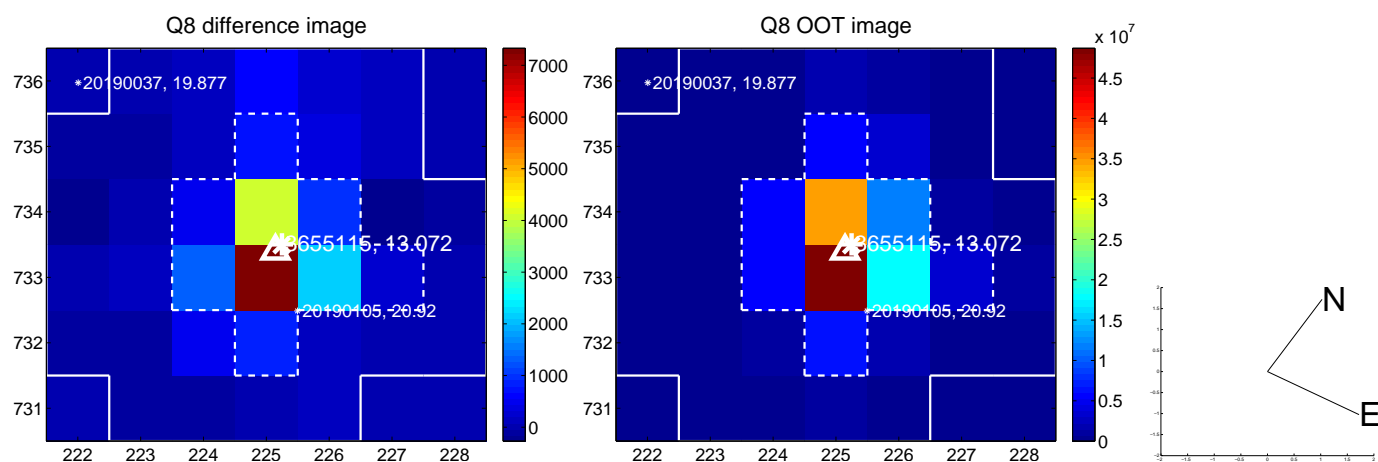
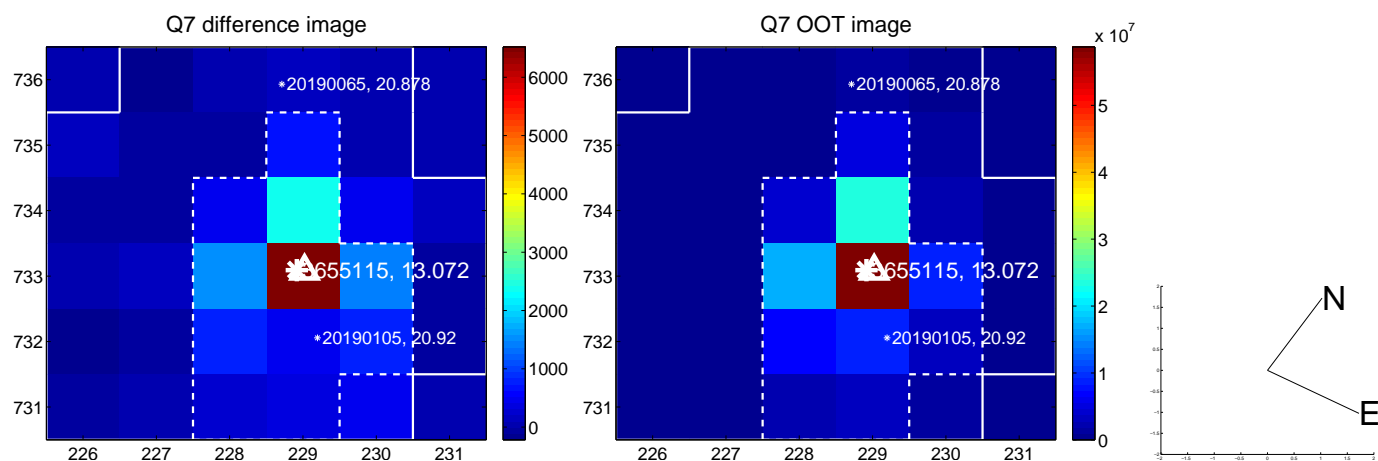
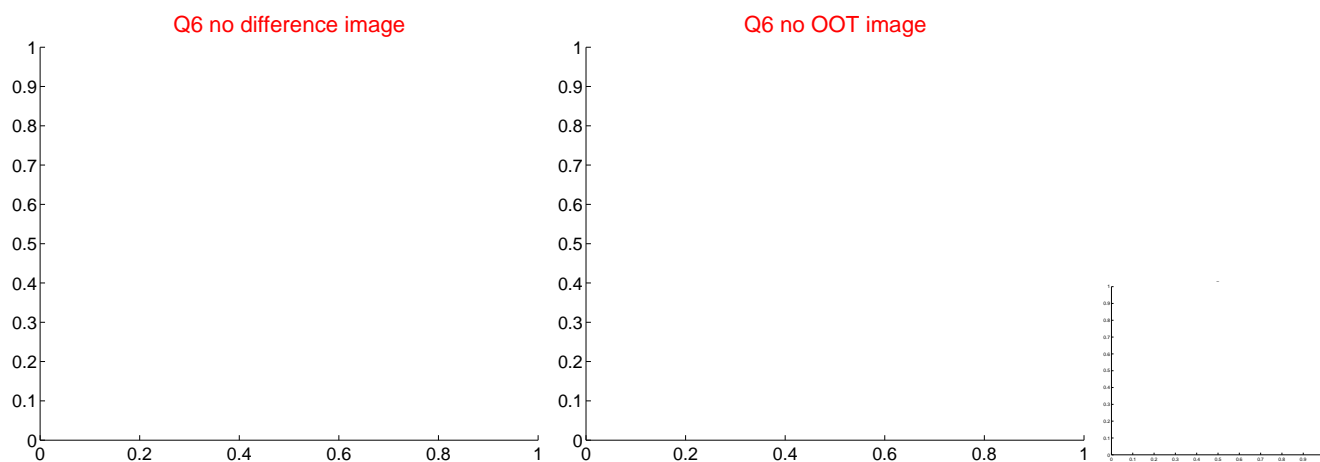
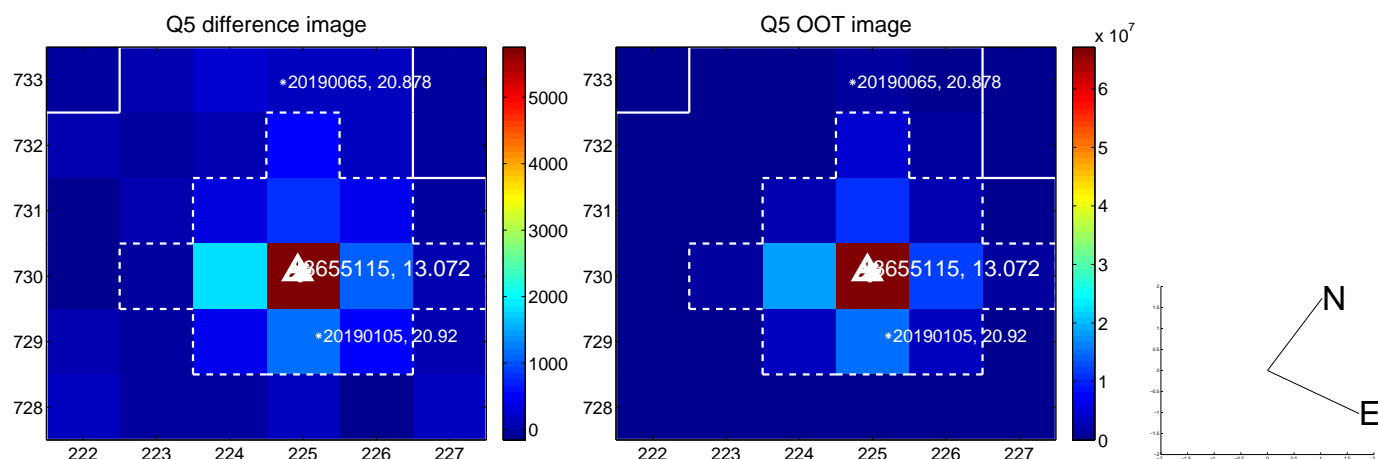


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

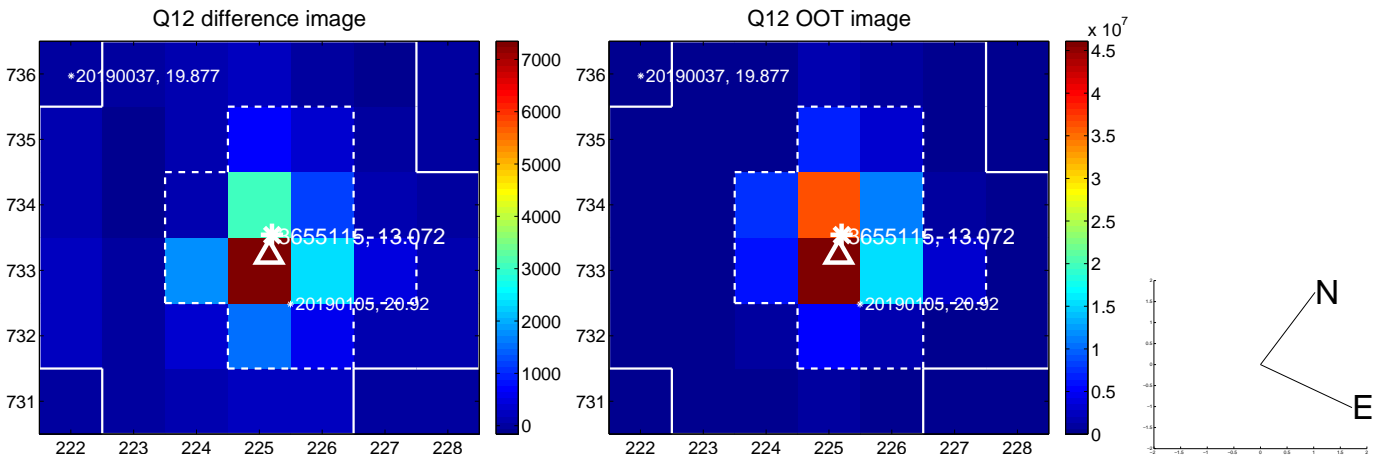
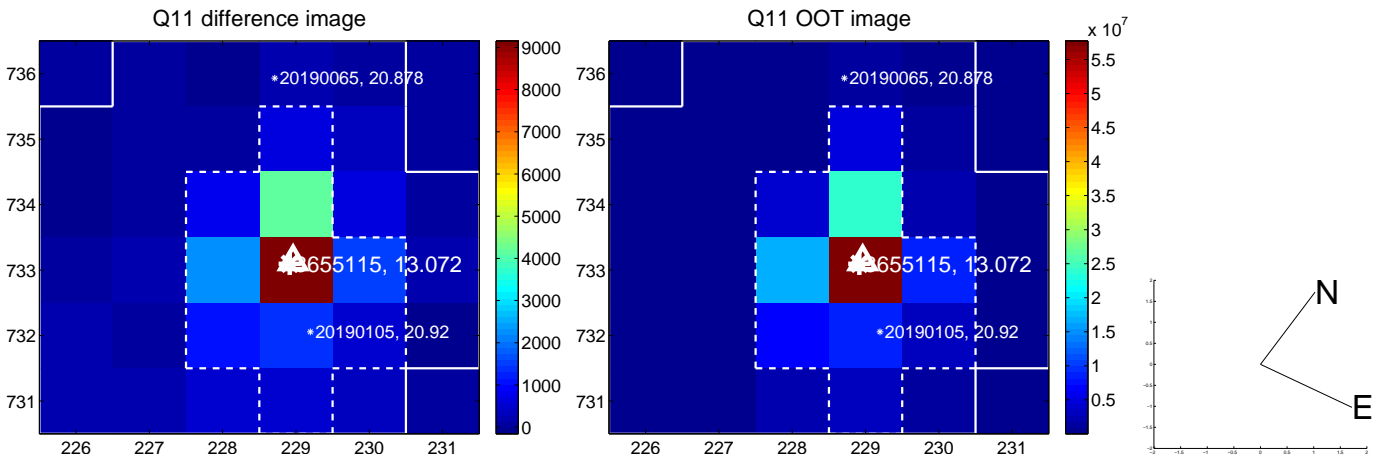
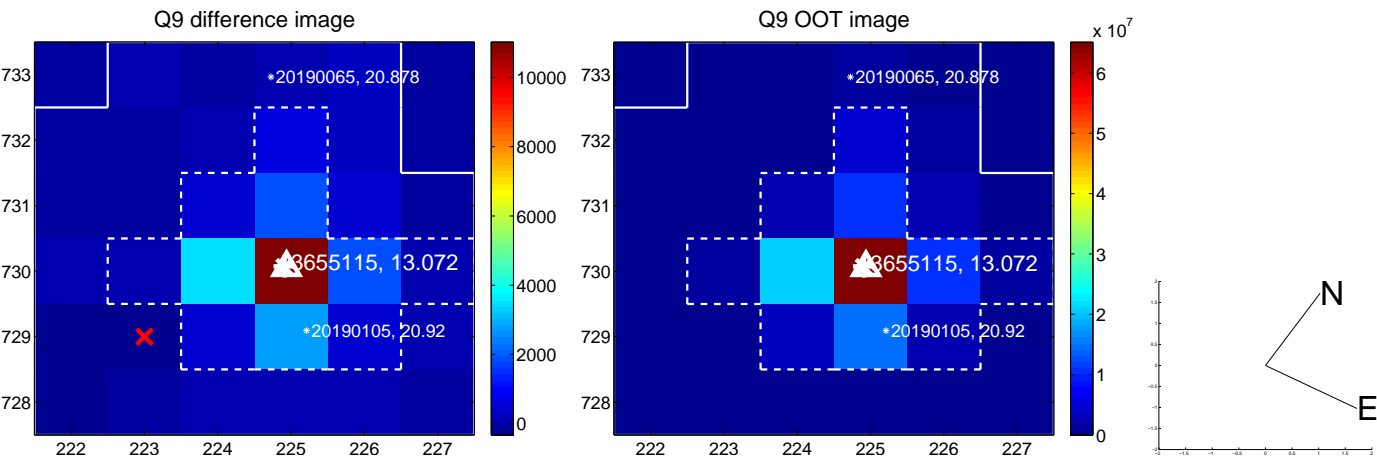


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

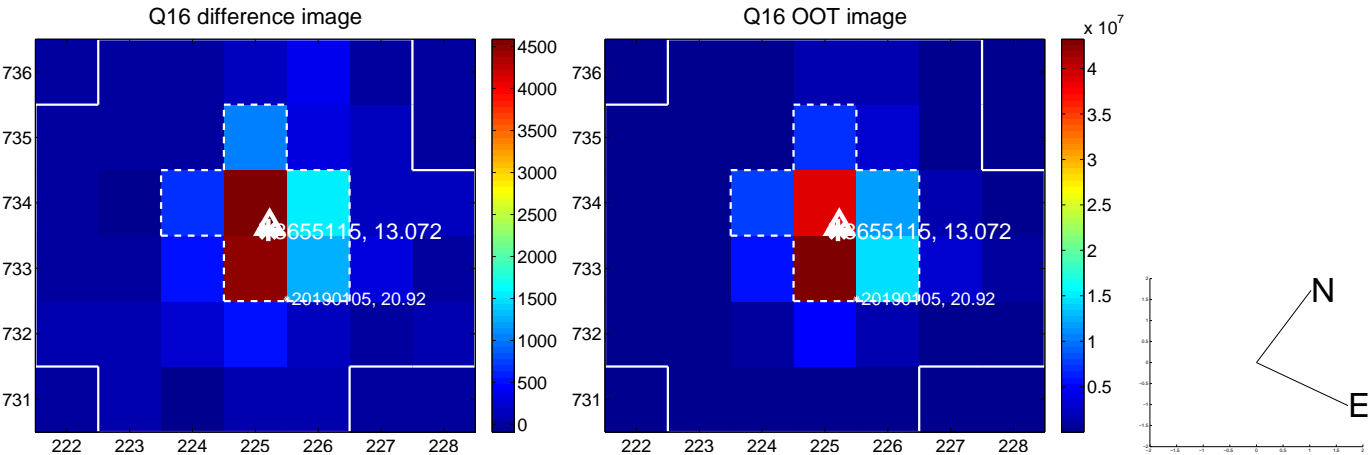
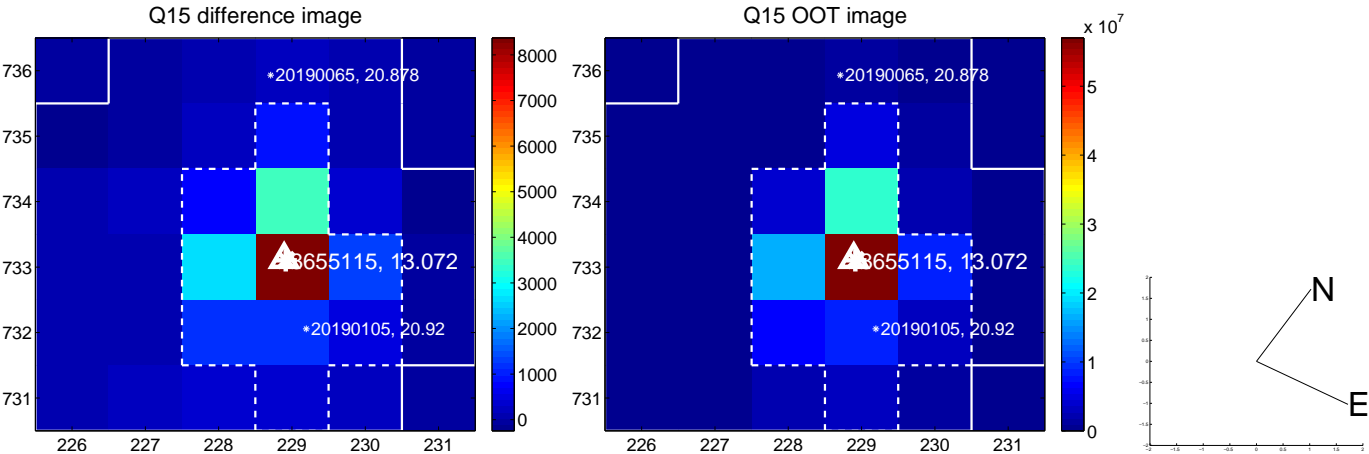
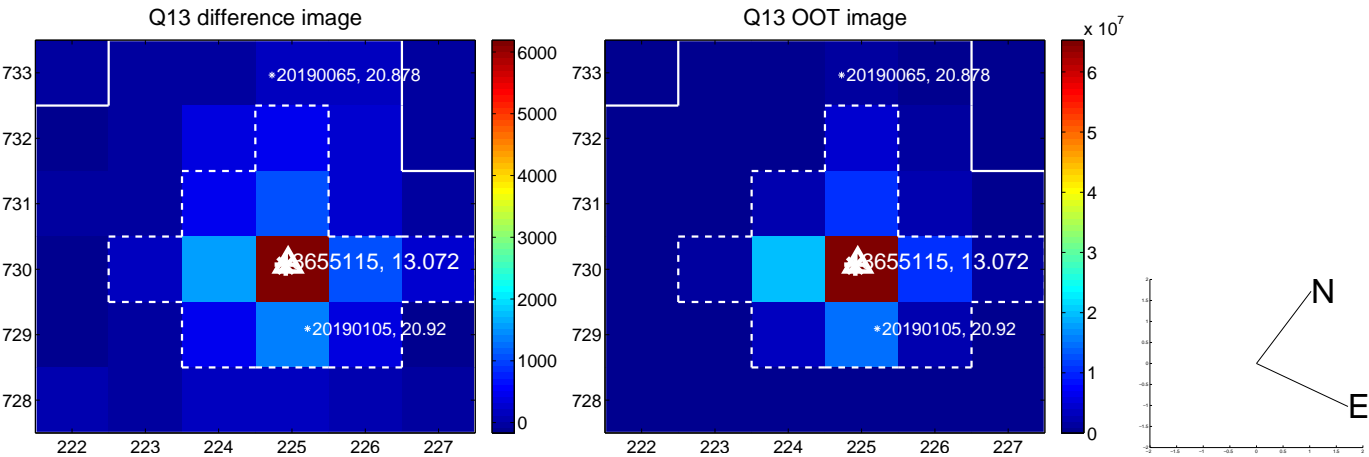




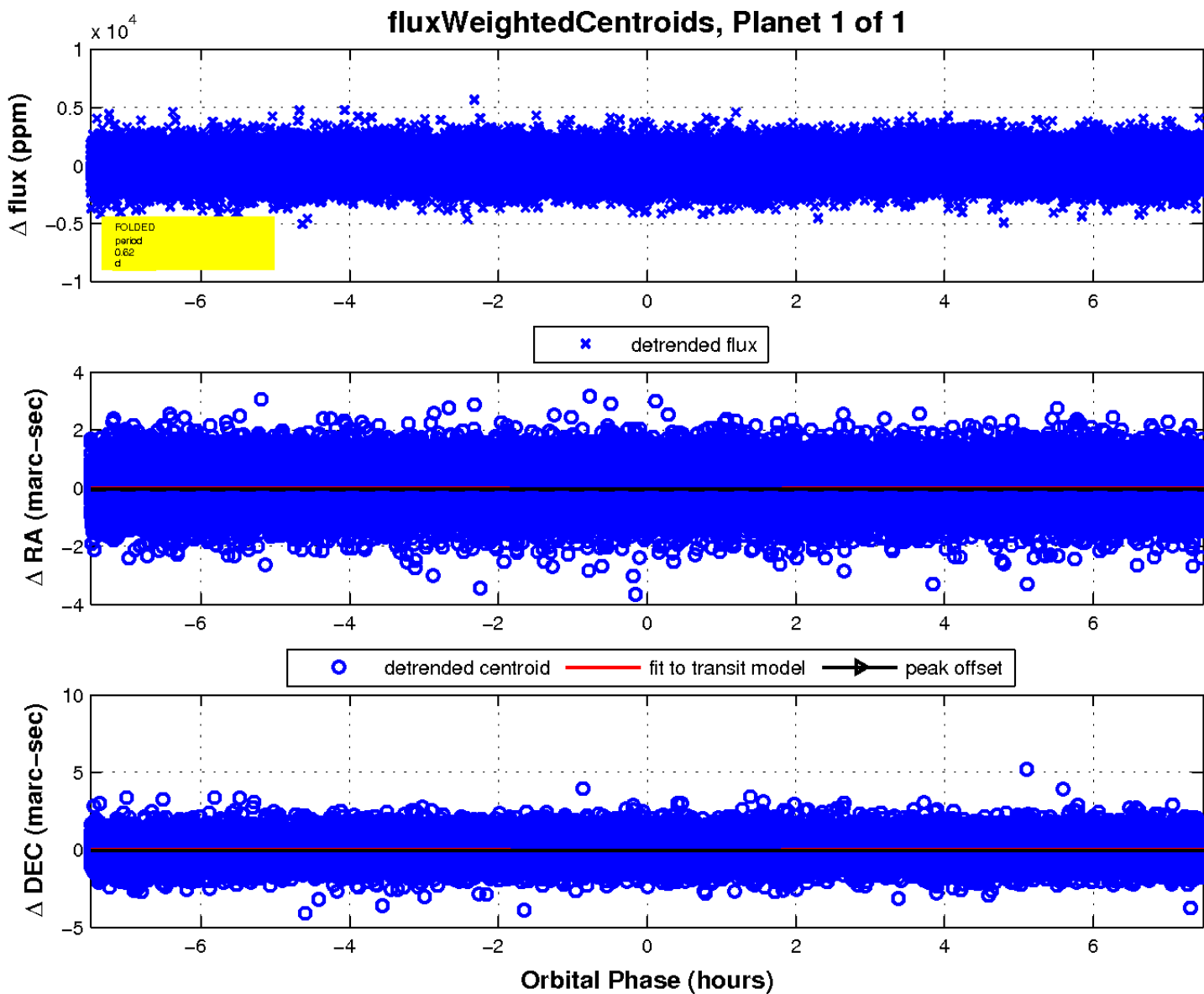
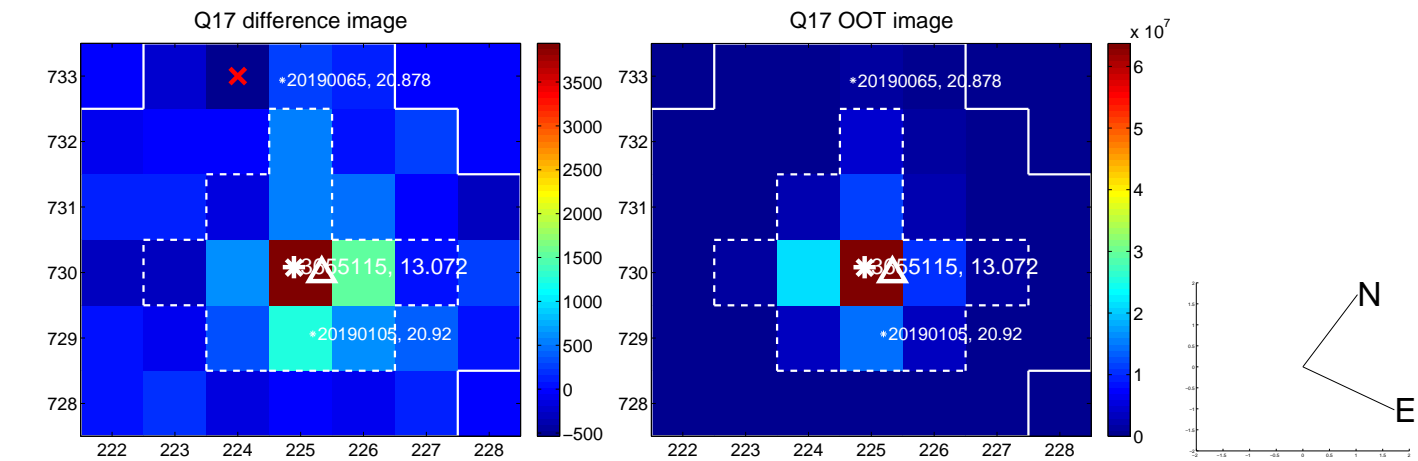
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\Delta$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

